Money, Prices, Credit, and Banking

The Purchasing Power of Money: Its Determination and Relation to Credit, Interest and Crises. By IRVING FISHER, assisted by HARRY G. BROWN. (New York: The Macmillan Company. 1911. Pp. xxii, 505.

The author aims to set forth the principles that determine the purchasing power of money, and to defend the thesis that the purchasing power is directly proportional to the quantity. After giving certain primary definitions, some of which are open to objection, he proceeds to explain the relation between money and prices by elucidating "the equation of exchange." The main part of the book is devoted to the statement and elaboration of this equation, which is formulated thus:

$$MV + M'V' = PT$$

M is the quantity of money and V the velocity of circulation; M′ is bank deposits subject to check, V′ their velocity of circulation, P the price level, and T the volume of trade. The author proceeds to show that M′ bears a definite relation to M, and that the volume of trade and the velocity of circulation both of money and deposits, are independent of the quantity of money. Thus he reaches the conclusion that a change in the quantity of money will normally change deposits subject to check in the same ratio, will not affect the velocity of circulation, and must cause a proportional change in the price level. While the equation of exchange itself asserts no causal relations between quantity of money and purchasing power, a consideration of other conditions leads to the conclusion that the causal force is the money volume.

The equation of exchange and the proportionality of prices and the quantity of money being determined, the argument passes to a discussion of the necessity of an index of purchasing power. This is followed by a "statistical verification," based upon a general historical review of price movements through several centuries. Gresham's law, bimetallism, and other subjects usually discussed in such connection, are interestingly presented.

Most critics of the quantity theory admit that the quantity of money is a determinant of the price level. Some deny that it is the only cause, or perhaps the most important under some conditions. The author seems so impressed with the importance of showing that changes in the quantity of money are the most potent causes of changes in the price level that he over-emphasizes this

factor as against the others. Indeed, he goes so far as to say in one place (page 29) that the relation between the quantity of money and the price level is "*the most important*" of the relations in his equation. Yet a few pages farther back he tells us that "we must distinctly recognize that *the quantity of money is only one of three factors of equal importance* in determining the price level."

It is doubtful whether changes in the price level are caused more often by changes in the quantity of money than by changes in the other factors of the equation. Remembering that gold has other uses than monetary, there is some reason to think that if the cost of adding to the money medium is greater than the social loss due to getting on with a scarcity of money in the face of expanding trade, the price level will fall on account of the latter movement. We may say to be sure that the quantity of money under these circumstances is relatively less; but the causal force is not the change in the volume of money.

The most important criticism of Professor Fisher's presentation is not that his logic is not sound, nor that his presentation is not clear, but that he over-emphasizes the quantity of money as a causal factor of price changes. He really is saying in other words what Ricardo, Mill, and others, have said, that if an article has no use excepting as a medium of exchange, and therefore no source of value excepting this use, any change in its quantity will cause a proportional change in the price level if the volume of trade and the velocity of circulation do not change in the meantime. The difficulty is that gold, which may be regarded as the world's money, does have other uses and therefore its value as money is affected by the demand for it for these; that the volume of trade is constantly changing, and that there is at least some doubt, in spite of Professor Fisher's excellent argument, whether the velocity of circulation does not change somewhat with the changing volume of money. Moreover, many people would insist that what he calls transition periods are the usual conditions. That he senses this fact is shown by his statement "that the proposition that prices vary with money holds true only as between two imaginary periods" (page 159).

The author's discussion of index numbers presents nothing new, although it is interesting and well put. Professor Fisher's proposal for the control of the price level is a combination of the tabular standard and the gold-exchange standard. For the operation of the gold-exchange standard where it exists little but praise can

be given. Nevertheless, we must remember that this, like all such devices, rather corrects changes than prevents fluctuations. The same is true of the tabular standard. A combination of the two would not yield a different result. No device of monetary standards can ever anticipate or prevent changes in the amount of the psychical element in the value of goods. Apart from theoretical considerations, however, the practical difficulties in the way of the adoption of Professor Fisher's scheme are at least as great as those in the way of the adoption of bimetallism or the tabular standard.

Certain minor criticisms of the book might be made. As already remarked, the definitions of the first chapter are open to question in some respects. While it is said that money must be "generally acceptable" no effort is made to define "generally"; a clear distinction is not made between the legal and social aspects of the appropriation of goods; and the distinction between wealth and property might be found fault with. Professor Fisher's difficulty with the concept of money is shown by his, probably unconscious, resort to the use of the term "real money."

A number of appendices, covering nearly 150 pages, give valuable information, clearly presented, on a variety of subjects touched on in the text, and also amplify in some respects some of the arguments. Attention might be directed particularly to the concept of the velocity of circulation and Professor Fisher's practical formula for calculating it. This is in substance the article which was printed in the *Journal of the Royal Statistical Society* a year or two ago, and summarized by the present writer in the *Publications of the American Statistical Association*, for March, 1910.

It is the unfortunate duty of the reviewer to point out what he thinks are defects of the book he reviews. While what has been said in the way of criticism might be added to in a considerable number of details, in spite of all, the book is an excellent treatment of the subject; is written in defence of a theory the abandonment of which has been incomprehensible to the writer, as Professor Fisher says it has been to him; and may fairly be called, on the whole, the most important American book of the year in the field of economics.

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Banking Reforms in the United States. By O. W. M. Sprague. (Cambridge: Harvard University. 1911. Pp. 176.)